Quick Start Guide: Using the 612 Front Panel Animator (FPA)

Version 1.1 Production Intent Modules (serial number 0101 onwards)

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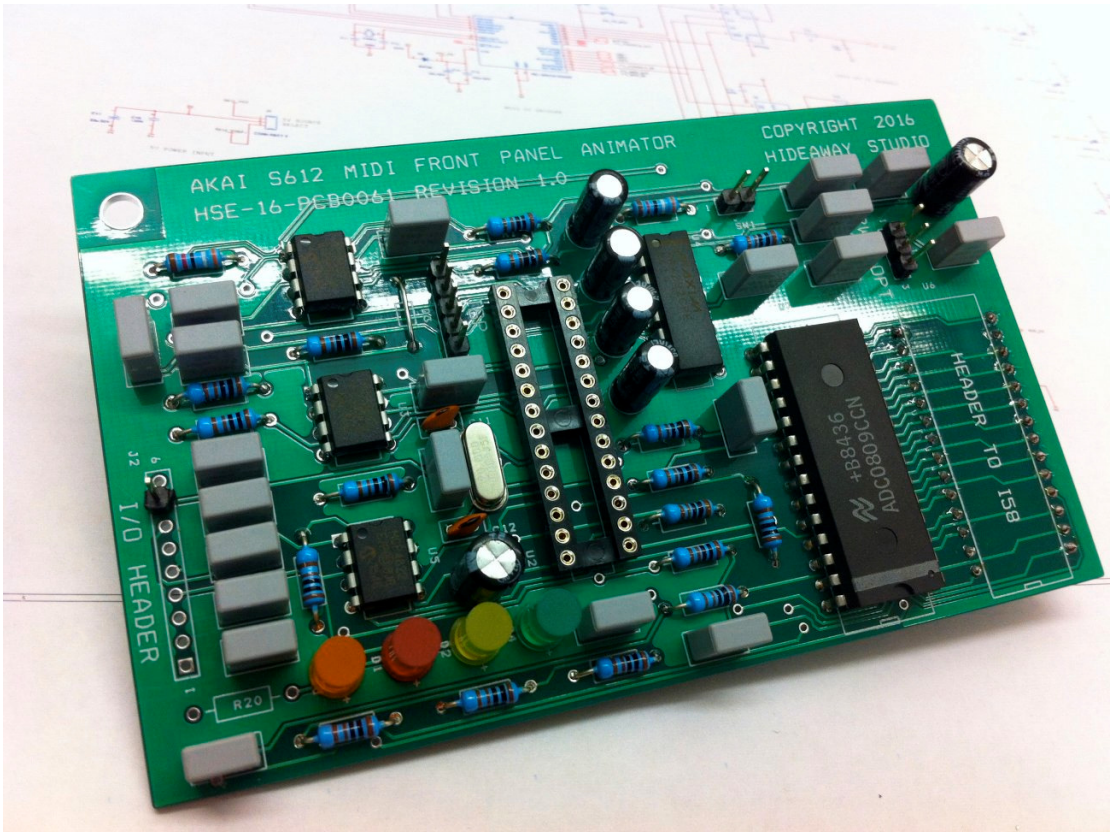

Introduction

The venerable S612 sampler was designed by David Cockerell in the early 1980s as one of the first "affordable" studio samplers on the market. Completely crushed in terms of specification by today's standards with its 1 second sample memory in max sample rate and ultra basic MIDI implementation the 612 still has a following. This is in part because it is remarkably simply to use and has a peculiar manual splicing control permitting the start and end points to be moved and even reversed in real time.

This feature is very cool but what it has always cried out for is some means of animating the controls in real time. The FPA board allows just this - under the control of 5 MIDI CC channels its able to control the Sample Start/Splice, Sample End, Filter Cutoff, Decay and Vibrato Speed controls from a sequencer all in warm scratchy 12-bit audio with surprisingly fast MIDI response.

This opens a whole new creative path on this old beast resulting in weird glitchy loops, reversed effects, morphing/traversing effects and general chaos..

Using the S612 FPA Module

The FPA Module has two main modes of operation:

Manual FPA Mode

To enable the unit to behave just like a stock S612 make sure the Filter Control is fully clockwise before powering up – this will tell the FPA firmware to route the front panel controls to their normal destinations for manual operation. It will stay in this mode until you power down.

MIDI Animated Mode

To enable the MIDI Animator Mode turn the Filter Control fully anti-clockwise before powering.

MIDI Channels

Please note that although the MIDI channel of the S612 itself may be set by the front panel controls, the FPA module only receives continuous controller messages from channel 1. It is therefore possible to receive Note_ON/OFF messages on a different MIDI channel to the continuous control messages.

The S612 MIDI channel for the sampler itself is changed using the [Channel Down] and [Channel Up] buttons on the front panel.

Continuous MIDI Controllers

5 Parameters are available for continuous control via the following MIDI CC channels:

The MIDI CC channels are as follows (hard coded to MIDI channel 1):

CC20 Sample Start Position / Splice
CC21 Sample End Position
CC22 LFO Speed (usually used in conjunction with Mod Wheel for Vibrato Depth control)
CC23 Sample Decay Rate
CC24 Filter Cutoff

NB: In MIDI Animator Mode the right hand front panel control positions bar LFO Depth, Level and Tuning are ignored.

NB: All 5 parameters require 7-bit absolute CC control messages.

Potential Control Sources

The FPA Module can be controlled from any MIDI source that can produce CC messages on the required channels detailed above. This can be in the form of a control surface on its own or a synth in conjunction with a control surface and/or a sequencer/DAW.

Often it is useful to connect a control surface such as the Arturia BeatStep™ up to a sequencer/DAW such that the control data produced by the control surface is passed through the sequencer to the FPA Module. This permits tweaking parameters on the fly as well as recording manual control movements. Any control data recorded this way can then be fine-tuned afterwards. For very precise animations such as making break beats the CC messages can be created and edited directly in a list or event editor.

Quick Guide to Using the S612 Sampler...

Make sure you press a key on your keyboard/controller before hitting the NEW button (New Sample) as this selects the Sample Rate. The lowest notes cause sampling at 4KHz and the highest notes at 32KHz with several rates between. The rate at which the LED to the left of NEW flashes denotes the sample rate.

The FPA Module works most intuitively in [ONE SHOT] mode by keying the sample with Note_ONs whilst moving the Sample Start and End points with MIDI controllers CC20 and CC21. If controller CC21 becomes lower in value than CC20 then the sample will play in reverse and if the note is sustained it can traverse “0” and start backwards and end forwards. In this mode the sample will only play from the Start/End points during a Note_ON.

Sampling things such as beats, arpeggios and morphing samples work well with the MIDI controlled offsets – especially when the occasional reversed direction is thrown in.

The filter can be modulated during Note_ONs for creating sweeping effects in all modes.

[LOOPING] and [ALTERNATING] modes are rather bizarre on the S612 and will require more experimentation. It is therefore probably worth seeing what they can due in Manual FPA Mode from the front panel first to get an idea. When in [MANUAL SPLICE] mode the sample loop point can be manually changed using the SPLICE slider. The S612 auto-auditions on slider movement which can actually be used creatively but it needs some experimentation and can be used to produce some interesting glitchy effects. Combinations of gradual changes and sudden jumps can be interesting as can moving both sliders at the same time in [ALT] mode with both values very close to one another.

Techniques

Making Percussive Effects with the FPA Module (One Shot Mode)

The FPA Module can control the sample start and end points rapidly and accurately. To create percussive effects make a series of Note_ON events in a sequencer or step editor and then control the start and end points using CC messages. With a little practice it is possible to set the sample Start Position just prior to the following Note_ON to allow a drum beat, arpeggio or any other sample source to be rearranged on the fly. This can include short reversed sections by momentarily moving the Sample End point to a lower value than the Start Point.

In [ONE SHOT] mode you must jump to the point in the sample you require <u>before</u> playing that section of the sample with a Note_ON.

Tip: It often helps to make sure the sample is relatively well tempo matched to the main sequence before attempting to animate jumps within the sample.

Making Morphing Effects with the FPA Module (One Shot Mode)

You can create cool walking through sample effects by firing a rapid stream of notes and smearing them together using the decay control. The sample Start and End points are then animated to create a morphing effect. This can be particularly effective on short sections of orchestral music or evolving sustains especially if there is a key or note change mid sample to traverse through at strategic moments. By arranging the end point at such a key change you can even traverse key changes whilst changing direction of the sample.

Glitchy Madness (Manual Splice Looping Mode)

One obscurity with the S612 is that it instantly auditions a loop on moving the sliders in [MANUAL SPLICE] [LOOP] or [MANUAL SPLICE] [ALT] mode. Continuously moving the Start/Splice and End points will create all manner of strange glitches which can result in some interesting effects at certain rates, spacings and positions.

Remember that the PFA Module is only a control animator ie. ultimately it is limited by the functionality the sampler itself gives to each control but it does appear to be pretty sprightly so you can do some quite intricate/oddball stuff with it... infinitely more so than a regular 612!